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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/403,365	03/31/2003	Roger Woodruff	1370.052US1	4171

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SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
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MINNEAPOLIS, MN 55402

EXAMINER

WIDHALM, ANGELA M

ART UNIT

PAPER NUMBER

2152

MAIL DATE

DELIVERY MODE

09/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



Schwegman Lundberg
& Woessner P.A.

SEP 07 2007

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Office Action Summary

Application No.

10/403,365

Applicant(s)

WOODRUFF, ROGER

Examiner

Angela Widhalm

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Office Action

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other. _____

DETAILED ACTION

1. The claims 1-23 are pending in this application. This is a non-final office action in response to Application Number 10/403,365 filed on 31 March 2003.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 10 October 2006 and 9 March 2007 were filed after the mailing date of the application on 31 March 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. Claims 4 and 15 are objected to because of the following informalities:
- a. Claims 4 and 15 recites "to a host on a remote, the method comprising: " in lines 2 and 3 respectively. It is unclear as to where the host is located. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 9 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 9 and 20 recite "the host" on the last line of the claim, but there is insufficient antecedent basis for the claim.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 12-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

9. In light of Applicant's disclosure, specification, page 3 line 25 – page 4 line 10, the medium is not limited to statutory subject matter, instead being defined as including non-statutory (e.g. digital signals; conveyed via an electrical connection, optical fiber, or communication medium such as magnetic, optical, electromagnetic, infrared or propagation medium) subject matter. As such, the claims are not limited to statutory subject matter and are therefore non-statutory. See MPEP § 2106.01 for further explanations of statutory and non-statutory computer-related subject matter.

For instance, non-statutory subject matter includes non-functional descriptive material recorded on some computer-readable medium or on an electromagnetic carrier signal and a signal encoded with functional descriptive material. Also, when a claim can be read so broadly as to include statutory and nonstatutory subject matter, it must be amended to limit the claim to statutory subject matter.

Summary of Claimed Invention

10. The claimed invention relates to methods, a system, and computer-readable media for detecting devices on a storage area network, creating virtual devices from the devices on the storage area network, and opening and closing iSCSI connections between a host and a target device. In which, in a related field of endeavor, the applied references teach the same.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1, 3-5, 8-12, 14-16, and 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Grosner et al. (U.S. Patent 7,089,293), hereafter referred to as Grosner.

13. Regarding claims 1, 12, and 23, Grosner disclosed a method for providing access to a storage area network, the method comprising:

determining the presence of a set of physical devices on a storage area network;
receiving a set of device identifiers for the set of physical storage devices; mapping the

set of identifiers to a set of virtual device identifiers; (see col. 11 lines 21-30, col. 11 line 57 – col. 12 line 24: Devices are detected and become part of a virtual storage domain)

presenting to a host on a second network a set of virtual storage devices corresponding to the set of physical storage devices and identified by the set of virtual device identifiers; (see col. 9 lines 32-36, col. 10 lines 18-22, fig. 12: The management software used for the management of the storage networks is located on the management network)

waiting a predetermined period of time to determine if changes in the set of physical devices exist; updating the set of virtual storage devices in accordance with the changes (see col. 17 lines 55-59, col. 21 lines 12-18: Devices are monitored and the system is updated with any changes).

14. Regarding claims 3 and 14, Grosner disclosed determining changes in iSCSI targets on the physical devices (see col. 54 lines 55-59).

15. Regarding claims 4 and 15, Grosner disclosed a method for interconnecting a storage device on a storage area network to a host on a remote, the method comprising:

receiving from the host a request to open a target on a virtual device presented on the remote network, said virtual device corresponding to a physical device on the storage area network; receiving a command from the host for the target on the virtual device; opening an iSCSI connection to a target on the physical device; if the

connection succeeds, then issuing the command to the target on the physical device, (see col. 22 lines 32-40, fig. 23)

otherwise waiting a predetermined time and repeating the attempt to open an iSCSI connection to the target on the physical device (see col. 15 lines 58-61).

16. Regarding claims 5 and 16, Grosner disclosed a method for maintaining a connection between a physical storage device on a storage area network and a virtual storage device presented on a remote network, the method comprising:

determining if a command is currently being processed by the physical storage device; if no command is currently being processed, then: sending a no-op command to the physical storage device, waiting up to a predetermined time to determine if a response is received from the physical storage device, and if no response is received, then determining if a maximum waiting time has elapsed and if so closing the connection (see col. 16 lines 53-58, col. 50 line 37, col. 50 lines 50-56: After a maximum period of inactivity, a connection is closed).

17. Regarding claims 8 and 19, Grosner disclosed the command is a SCSI command (see col. 22 lines 30-60).

18. Regarding claims 9 and 20, Grosner disclosed a method for maintaining a connection between a physical storage device on a storage area network and a virtual storage device presented on a remote network, the method comprising:

detecting that a connection between the physical storage device on the storage area network and the virtual storage device presented on a remote network is to be closed; determining if a command is outstanding for the physical storage device; if a command is outstanding, then returning the command to the host (see col. 15 lines 58-61: a connection ends in the middle of a request and the client retries sending the request to a different server. In order for the client to do this, the client must first have received the outstanding request).

19. Regarding claims 10 and 21, Grosner disclosed the command is a SCSI command (see col. 22 lines 30-60) and wherein returning the command to the host comprises setting a unit check and sense record (see col. 15 lines 58-61: client retries sending the request).

20. Regarding claims 11 and 22, Grosner disclosed waiting for a new command to be issued for the virtual storage device; opening a new connection to the physical storage device corresponding to the virtual storage device; and sending the new command to the physical storage device (see col. 20 lines 25-27: data is resynchronized after a device failure. See col. 15 lines 58-61: A connection fails and a client sends the command to another server. Before the command can be sent to the new server, a connection must be established between the client and the new server).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 2, 6-7, 13, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grosner.

23. Regarding claims 2, 6-7, 13, and 17-18, Grosner disclosed the invention, substantially as claimed, as described above in claims 1, 5, 12, and 16, but did not explicitly disclose the predetermined time is sixty seconds (claims 2, 6, 13, 17) and the maximum waiting time is 180 seconds (claims 7, 18). However, it would have been obvious to one of ordinary skill in the art at the time of invention that the specific wait time is a matter of implementation choice.

Conclusion

24. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

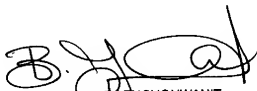
In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela Widhalm whose telephone number is (571) 272-1035. The examiner can normally be reached M-F, 9:00 am - 5:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Angela Widhalm
Examiner
Art Unit 2152
25 August 2007


BUNJOR JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER
8/30/07

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**INFORMATION DISCLOSURE
 STATEMENT BY APPLICANT**
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Complete if Known

Application Number	10/403,365
Filing Date	March 31, 2003
First Named Inventor	Woodruff, Roger
Group Art Unit	2153-2152
Examiner Name	Unknown <i>Widhalm</i>

Sheet 1 of 1

Attorney Docket No: 1370.052US1

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Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Filing Date if Appropriate
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EXAMINER

/Angela Widhalm/

DATE CONSIDERED

06/05/2007

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Application Number	10/403,365
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First Named Inventor	Woodruff, Roger
Group Art Unit	2153-2152
Examiner Name	Unknown - Widhalm

Attorney Docket No: 1370.052US1

Sheet 1 of 5

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EXAMINER

DATE CONSIDERED

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Complete if known:

Application Number	10/403,365
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First Named Inventor	Woodruff, Roger
Group Art Unit	2153-2152
Examiner Name	Unknown Widholm

Sheet 2 of 5

Attorney Docket No: 1370.052US1

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EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

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**INFORMATION DISCLOSURE
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Compliance of Applicant

Application Number	10/403,365
Filing Date	March 31, 2003
First Named Inventor	Woodruff, Roger
Group Art Unit	255-2152
Examiner Name	Unknown - widhalm

Sheet 3 of 5

Attorney Docket No: 1370.052US1

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Application Number	10/403,365
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First Named Inventor	Woodruff, Roger
Group Art Unit	2153-2152
Examiner Name	Unknown Widhalm

Attorney Docket No: 1370.052US1

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Application Number	10/403,365
Filing Date	March 31, 2003
First Named Inventor	Woodruff, Roger
Group Art Unit	2153-2152
Examiner Name	Unknown Widhalm

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/Angela Widhalm/

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Notice of References Cited

Application/Control No.

10/403,365

Applicant(s)/Patent Under
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WOODRUFF, ROGER

Examiner

Angela Widhalm

Art Unit

2152

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